

PCT



JC10 Rec'd PCT/PTO 18 JUL 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 10/529531 Confirmation No. N/A  
Applicant : Pierre Fayet et al.  
Filed : March 29, 2005  
TC/A.U. : N/A  
Examiner : N/A  
  
Title : DEVICE FOR CARRYING OUT A PLASMA-ASSISTED  
PROCESS  
Docket No. : FRR-16007  
Customer No. : 040854

LETTER

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir/Madam:

Enclosed herewith is an English translation of the International Preliminary Examination Report for filing in the above-identified application.

Respectfully submitted,

RANKIN, HILL, PORTER & CLARK LLP

By   
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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date indicated below.

  
Signature of Person Mailing Paper

7/15/05  
Date

David E. Spaw  
Printed Name of Person Mailing Paper

Translation

PATENT COOPERATION TREATY

PCT/CH2003/000610



# PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P2074 PCT	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/CH2003/000610	International filing date (day/month/year) 09 September 2003 (09.09.2003)	Priority date (day/month/year) 03 October 2002 (03.10.2002)
International Patent Classification (IPC) or national classification and IPC C23C 16/509		
Applicant TETRA LAVAL HOLDINGS & FINANCE S.A.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising: <ul style="list-style-type: none"> <li>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:           <ul style="list-style-type: none"> <li><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</li> <li><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</li> </ul> </li> <li>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</li> </ul>
4. This report contains indications relating to the following items: <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Box No. I Basis of the report</li> <li><input type="checkbox"/> Box No. II Priority</li> <li><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li><input type="checkbox"/> Box No. IV Lack of unity of invention</li> <li><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li><input type="checkbox"/> Box No. VI Certain documents cited</li> <li><input type="checkbox"/> Box No. VII Certain defects in the international application</li> <li><input type="checkbox"/> Box No. VIII Certain observations on the international application</li> </ul>

Date of submission of the demand 29 March 2004 (29.03.2004)	Date of completion of this report 22 April 2005 (22.04.2005)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/CH2003/000610

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☒ The international application as originally filed/furnished
- ☒ the description:
- pages \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- pages \_\_\_\_\_ 1-12 \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_, as amended (together with any statement) under Article 19
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- pages \_\_\_\_\_ 1/2-2/2 \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

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## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-12	YES
	Claims		NO
Inventive step (IS)	Claims	1-12	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-12	YES
	Claims		NO

## 2. Citations and explanations

Reference is made to the following document:

D1: FUJIMAKI S ET AL: "New DLC coating method using magnetron plasma in an unbalanced magnetic field"  
FIFTH INTERNATIONAL SYMPOSIUM ON SPUTTERING AND PLASMA PROCESSES (ISSP'99), KANAZAWA, JAPAN, 16-18 JUNE 1999, Vol. 59, Nos. 2-3, pages 657-664, Vacuum, Nov-Dec 2000, Elsevier UK ISSN: 0042-207X

D1 is considered the prior art closest to the subject matter of claim 1. D1 discloses (the references in parentheses relate to said document): a device (figure 1; page 658, Chapter 2) for carrying out plasma-supported chemical deposition from the gas phase using an unbalanced direct current magnetron electrode. The workpiece positioning means sets the distance between the workpiece and the magnetron electrode at approximately 4 cm (figure 2).

The subject matter of claim 1 differs therefore from the known device in that the magnetron electrode is supplied with high-frequency alternating current and in addition in that, between the surface that is to be treated and darker tunnels which extend through magnetic lines of force between peripheral and central poles of the magnetron

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front, there extends a visible plasma strip which has a minimum width but homogenous brightness relative to the surface that is to be treated.

The subject matter of claim 1 is therefore novel (PCT Article 33(2)), although the last feature is unclear (PCT Article 6) since it is a method feature.

The problem addressed by the present invention can therefore be considered the provision of a device which improves the efficiency of plasma-supported processes and increases layer quality in deposition processes. Since the solution to this problem proposed by claim 1 of the present application is not suggested by the prior art, it involves an inventive step (PCT Article 33(3)).

Claims 2-12 are dependent on claim 1 and therefore likewise meet the PCT novelty and inventive step requirements.

From the INTERNATIONAL BUREAU

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NOTIFICATION OF TRANSMITTAL  
OF COPIES OF TRANSLATION  
OF THE INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY  
(CHAPTER I OR CHAPTER II  
OF THE PATENT COOPERATION TREATY)  
(PCT Rule 72.2)

To:

**FREI PATENTANWALTSBÜRO AG**  
Postfach 1771  
CH-8032 Zürich  
SUISSE

EINGANG

- 1.000 -

Frei  
Patentanwaltsbüro

Date of mailing (day/month/year) 30 June 2005 (30.06.2005)	
Applicant's or agent's file reference P2074 PCT	<b>IMPORTANT NOTIFICATION</b>
International application No. PCT/CH2003/000610	International filing date (day/month/year) 09 September 2003 (09.09.2003)
Applicant TETRA LAVAL HOLDINGS & FINANCE S.A. et al	

## 1. Transmittal of the translation to the applicant.

The International Bureau transmits herewith a copy of the English translation made by the International Bureau of the international preliminary examination report established by the International Preliminary Examining Authority.

## 2. Transmittal of the copy of the translation to the elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following elected Offices requiring such translation:

AZ, CA, CH, CN, GH, KG, KP, KR, MK, MZ, RU, TM

The following elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, BA, BB, BG, BR, BY, BZ, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EP, ES, FI, GB, GD, GE, GM, HR, HU, ID, IL, IN, IS, JP, KE, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MN, MW, MX, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, SC, SD, SE, SG, SK, SL, SY, TJ, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

## 3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report.

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Authorized officer

Yolaine Cussac

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